

Sounds good

Software helps turn computers into telephones, answering machines / **Simson L Garfinkel**

MY COMPUTER gave me a surprise on Monday. I had been fiddling around with some fax software when I went out for lunch. When I came back, there was a flashing icon in the Windows 95 taskbar that said I had four voice messages.

Unbeknownst to me, my computer had turned itself into an answering machine.

The program that accomplished this magic was WinFax 8.0 Pro (\$89), a sophisticated fax system that runs circles around the software that Microsoft ships with Windows. (A cut-down version of WinFax is included with Outlook 98.) WinFax comes with TalkWorks, a voice-mail system, but I had forgotten about this capability until I swapped out my old modem for a Zoom 56k dual mode model. Zoom has done a great job with the voice compression on its hardware: The sound quality was as good as any voice-mail system I've ever used.

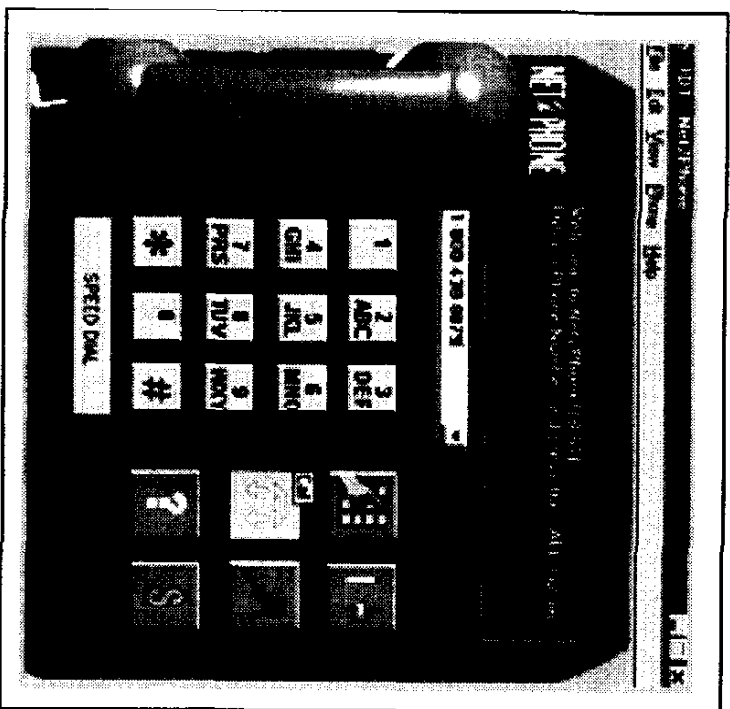
Using a computer for an answering machine has a lot of advantages, but one big disadvantage. The advantage is flexibility. Equipped with a decent voice-capable fax modem, a computer can answer incoming phone calls, faxes, or voice calls with equal agility. Once they're in your machine, you can print the faxes,

listen to the voice messages, save the information in a file, or e-mail it to someone else.

Unfortunately, there's a big disadvantage to this merger of computers and your telephone: You have to leave your computer on all time, or else you miss calls. What's worse, if your computer crashes, there's nothing left to answer your phone.

One way around this downside is to use a fax/e-mail service such as JFAX. The services operates the computer and the telephone line for you, then automatically sends you your voice mail and faxes by e-mail. JFAX (www.jfax.com) costs \$15 to sign up and then \$12.50 per month, which includes 300 incoming fax pages or voice messages.

This merger of telephones and computers is something that we will be seeing more of. After all, to a computer, voice is simply another kind of data. Certainly, it is harder to send voice over the Internet than to send a Web page: A typical Web page has perhaps 20,000 bytes of information, while a single minute of human voice can take as much as 60,000 bytes or more. But in the scheme of things, a minute of voice doesn't take nearly as much data as, say, just 5 seconds of video or a copy of Microsoft Word. As computers and networks get better at moving video and large chunks of data,



voice will come along for nearly a free ride.

One firm that's taking advantage of the ease of sending voice over the Internet is IDT (www.idt.net), an Internet service provider that specializes in bridging the Internet and the world's telephone networks. Throughout the world, IDT operates big banks of modems connected to the Internet. When your voice travels over IDT's network, for most of the way it is being carried over the Internet. That's cheaper because the Internet generally sends information more efficiently than the telephone system and because the Internet lacks the elaborate system of government regulation, tariffs, and taxes that the telephone network has been saddled with over the past century. IDT is now experimenting

calling card. And while the sound quality isn't quite as good as a Sprint or MCI calling card the service is cheaper.

IDT is also experimenting with other bridges between the telephone system and the Internet. For example, the company's Net2Phone service lets you make long-distance phone calls from a computer that's connected to the Internet. You'll need a decent Internet connection — at least a 28.8 modem — a good sound card, a headset, and a credit card.

Download IDT's software, register, and you can call anywhere in the world from your computer. Calls within the United States are 10 cents per minute, while calls to Japan are just 29 cents a minute. There's no fee to call 800-numbers.

Unfortunately, calling from a computer to a phone is harder than calling from a phone to a phone — mostly because computers are much more complicated.

One of the great ironies in all of this computer telephony stuff is that phone companies like Bell Atlantic and GTE have largely abdicated what was once their leadership role, and instead have let Microsoft and upstarts like IDT (started in 1990 and now a \$1.3 billion company) take over. That's particularly surprising when you consider that the transistor and most of what else goes into modern computer systems was originally invented by phone companies in order to help them switch telephone calls more efficiently.

Technology writer Simson L. Garfinkel can be reached at plugged-in@simson.net